REMARKS

In view of the foregoing amendments and following remarks responsive to the non-final Office Action dated July 17, 2006, Applicant respectfully requests favorable reconsideration of the application.

Applicant respectfully thanks the Office for the withdrawal of the previous rejection.

However, in the new Office Action, the Office rejected all claims based on new prior art grounds. Specifically, the Office rejected claims 1–9 and 11–36 under 35 USC 103(a) as being unpatentable over Kimura in view of Ladden. The Office further rejected claim 10 under 35 USC 103(a) as being unpatentable over the combination of Kimura in view of Ladden and further in view of Puthuff.

The Present Invention

The present invention is a method and apparatus for controlling a device, such as a television, telephone answering device, or VCR, using a voice-based remote control unit in which the speech recognition software resides in the controlled device, rather than in the remote control device. The remote device includes circuitry for receiving the device command and converting it into electrical signals (e.g., a microphone) and transmitting it to the controlled device. The controlled device includes speech recognition circuitry for determining a command to which the speech corresponds and generating a control signal to the controlled device to cause the controlled device to execute the command.

The present application discloses and claims various different embodiments, including embodiments in which (1) a recorder can record a user's spoken command, (2) the recorder is located in the remote control unit, (3) the recorder is located in the controlled device, (4) a repeat button is provided on the remote control device which is used to activate the recorder to reproduce a last recorded voice command, (5) the recorder is activated either by a record button or by voice-activation, (6) the remote control can control multiple controlled devices, (7) a first controlled device can generate and transmit electrical signals corresponding to the spoken commands to a second controlled device, and (8) a first controlled device first converts the electrical signals corresponding to the spoken command into the corresponding control signal and transmits the control signal (as opposed to the electrical signals corresponding to the spoken command) to the second controlled device.

The Kimura Reference

Kimura is discussed in the background section of the present application. Kimura discloses a voice-based remote control unit in which the remote control unit includes speech recognition software for determining the spoken command. It differs from the present invention at least in that the speech recognition software is contained in the remote control unit, not the controlled device.

The Ladden Reference

Ladden discloses a wireless communications system, such as a cellular telephone system, in which the network can process incoming signals from a mobile unit, e.g., a car phone, using either speech recognition software or a conventional codec depending on whether the incoming signals correspond to a conventional voice telephone call with another person or are intended for a speech recognition system. When the base station determines that the mobile station intends to communicate with a speech recognition system, the base station instructs the mobile unit to switch between a first codec in the mobile unit specifically optimized for processing speech for conventional voice communicating and a second codec in the mobile unit specifically optimized for processing speech for speech recognition. Only after switching between codecs in the mobile unit does the base station established a link between the mobile unit and the speech recognition system in the network (rather than, e.g., a voice codec in the network).

Traversal of Rejections

Claims 1, 17, 18, and 20

With respect to the independent claims, namely, claims 1, 17, and 20, and dependent claim 18, the Office asserted that Kimura teaches "a voice command remote control system… a transducer… electrical signal" as a speech recognition controlled device; "a recognition processor… stored pattern data" as a recognition processor; transmitting control signals to the controlled device (i.e., the recognition process is performed at the speech originating section).

The Office conceded that Kimura does not teach transmitting speech signals to the controlled device for further speech processing. However, the Office asserted that Ladden teaches establishing a wireless link between the remote codec and the localized speech recognizer and that it would have been obvious to modify the location of the speech recognition in the remote unit of Kimura so that initial speech processing could be performed at the remote device and transmit speech parameters to the local device as taught by Ladden because it would advantageously use a more powerful speech recognition algorithm located at the base/local station rather than a less than ideal codec located at the wireless device.

Applicant respectfully traverses.

One of the fundamental requirements for an obviousness rejection is that the prior art must contain a suggestion, teaching, or motivation to make the proposed combination. Here, there is no such motivation, teaching, or suggestion.

The Office has improperly used hindsight reconstruction in its obviousness rejection. Particularly, the Office's statement that the motivation to make the combination is to permit a more powerful codec to be used at the base station is taken directly out of Applicant's specification. This alleged suggestion, motivation or teaching does not appear in either of the Kimura or Ladden references, but instead appears in Applicant's specification (see page 1, last paragraph to page 2 first full paragraph).

The Office cannot use Applicant's specification as the source of the motivation, teaching, or suggestion. The motivation must be found in the prior art.

Furthermore and in any event, (1) Ladden does not teach that for which it has been cited and (2) Ladden is in a non-analogous art. Specifically, a person working in the field of remote control units (the field of the present invention and Kimura) would not look to the art of wireless communications systems of Ladden for inspiration. Even if they did, they would find no motivation in Ladden to move the speech recognition software from the remote control unit of Kimura to the controlled device.

First and foremost, Ladden does not even teach that for which it has been cited. Particularly, the difference between Kimura and the present invention at issue is the change in the location of the speech recognition software from the remote control unit to the controlled device. However, in Ladden, the speech recognition software 209 is in the wired portion of the network, and not in any controlled device. In fact, in Ladden, there is no discussion whatsoever of the existence of a controlled device. Even if there is one, there is nothing in Ladden to suggest that it would be local to the speech recognition software unit 209. Specifically, Ladden discloses that the potential purposes of the speech recognition software (SRS) 209 are (1) to perform speech synthesis and act as a query recognizer for dialoguing with the mobile unit 200, (2) production of a written record of a phone conversation after performing speech recognition, (3) a language translation after performing speech recognition, (4) query recognition after performing speech recognition, and (5) keyword spotting so that automatic Public Land Mobile Network (PLMN) control can be invoked during a conversation (an example of PLMN control would be for a cellular telephone user to turn transcription services on and off during a conversation

using keywords as a control). Ladden, column 3, line 62 -- column 4, line 5.

Looking at Ladden, one would not be motivated to move the location of the speech recognition software from the remote control unit of Kimura to a controlled device. If anything, Ladden suggests moving it into the wired portion of the network. As there is no network *per se* in the situation of a remote control unit and its controlled device, Ladden actually appears to teach away from the present invention. Specifically, Ladden teaches placing the speech recognition software in a location that essentially does not exist in Kimura or the present invention, i.e., in the wired portion of a wireless communication network.

Accordingly, Ladden does not teach that for which it has been particularly cited, namely, relocating the speech recognition software from the remote control unit to the controlled device. Rather, in Ladden, the speech recognition software is in the network.

Furthermore and in any event, one would not even look to the art of wireless telephone communication networks when searching for a solution to minimize the size and power consumption of voice-based remote control units.

It is well established law that, in rejecting a claim for obviousness under 35 USC 103, prior art must be from the same field of endeavor as the invention or an analogous field. A field is analogous if it is reasonably pertinent to the particular problem with which the invention was involved. A reference is "reasonably pertinent" if it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. Thus, the purpose of both the invention and the prior art are important in determining whether

the reference is reasonably pertinent to the problem the invention attempts to solve. If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem and that may support use of that reference in an obviousness rejection. If, however, it is directed to a different purpose, the inventor would accordingly have had less motivation or occasion to consider it.

In the present situation, the purpose of the present invention is to simplify the circuitry in a voice-based remote control unit for household appliances, like televisions, VCRs and telephone answering machines, in order to reduce its size and battery power consumption.

Ladden, on the other hand, concerns wireless telecommunications networks. Speech recognition typically would not be used in a wireless communication network. Thus, there would be no motivation for a person working on problems with voice-based remote control units to look to a cellular telecommunication or similar wireless network.

Accordingly, with reference to the language of independent claim 1, the prior art does not disclose "a transmitter that transmits said electrical signal to a first controlled device" and the first controlled device comprising "a recognition processor that converts said electrical signal to pattern data...". Furthermore, claim 1 recites that the controlled device is a household appliance, which even more clearly places it outside of the art of telecommunication networks of Ladden.

With respect to independent claim 17, the prior art does not disclose "a remote control device wherein the sound of an audio voice command is converted to an electrical signal and transmitted to a first controlled device" and "a first controlled

device wherein said electrical signal is converted to pattern data…".

With respect to claim 20, the prior art does not teach "transmitting said electrical signal from said remote control device to a first controlled device" or "converting said electrical signal into pattern data within said first controlled device".

Dependent Claims

All of the dependent claims distinguish over the prior art of record for at least all of the reasons set forth above in connection with the independent claims from which they depend.

However, the dependent claims even further distinguish over the prior art. For instance, claim 2 recites that the household appliance controlled device is one of a stereo set, television, cassette tape deck, video tape deck, compact disc player, digital video disc player, telephone answering device, and video cassette recorder, which even more clearly places it outside of the art of telecommunication networks of Ladden. Support for the amended language of claim 2 can be found on page 1 and or pages 10-11 of the present specification.

Furthermore, claims 4 and 6 recite that the system includes "a recorder that records said electrical signal" (claim 4) and that "the recorder is located in the controlled device" (claim 6). The Office asserted that this is found in Kimura, Figure 6, sub-block 23a.

Applicant respectfully traverses. Sub-block 23A in Figure 6 of Kimura is a memory coupled to the speech recognition processor. The only purpose of this memory disclosed in Kimura is for storing pattern data for speech recognition. The memory 23a serves as the standard pattern data storage unit 5 shown in Figure 5,

and stores a plurality of different standard pattern data PA1 through PAn, PB1

through PBn,..., PM1 through PMn, with respect to respective voice commands.

Column 5, lines 12-20. Accordingly, it does not meet the limitations of claims 4 and

6 of recording "said electrical signals" (which are the voice signals prior to speech-

recognition).

Claims 5, 21, and 35 recite that the recorder is located in the remote device.

The Office asserted that Ladden teaches that "the remote codec contains speech

processing capabilities" at column 3, lines 43-60.

This portion of Ladden discloses that the mobile unit 200 has two types of

speech codecs 201 and 202. A speech codec is not a recorder.

Claims 7-9, 22 – 24, and 36 recite that (1) the remote includes a repeat

button wherein the recorder is activated to reproduce a last recorded electrical signal

for transmission to the controlled device responsive to the repeat button being

pressed (claims 7, 22 and 36), (2) a record button wherein the recorder is activated

by the record button (claims 8 and 23), and (3) that the recorder is voice-activated

(claims 9 and 24). The Office asserted that this is found in Kimura at column 4, line

45 through column 5, line 15.

This portion of Kimura discloses:

> FIG. 5 shows in block form the electronic circuit of the transmitter 10A of the voice-operated remote control system according to the present invention. The transmitter 10A has a speech recognition circuit 15A including a standard pattern data storage unit 5 which stores a plurality of different standard pattern data with respect to each of the voice commands. For example, the standard pattern data storage unit 5 stores standard pattern data PA1 through PAn with respect to a voice command A and standard pattern data PB1 through PBn with respect to a voice command B. Further,

thus, standard pattern data PM1 through PMn with respect to a voice command M are stored therein. One voice command which is entered from the microphone M is recognized using a plurality of standard pattern data, and the recognized data are converted into a remote control signal RC. The transmitter 10A has a controller 16 to which the talk switch 12 and the mode selector switch 13 are connected. The controller 16 applies a remote control instruction signal SR to a transmitting circuit 17 which energizes the infrared light-emitting diode D1 to transmit a remote control signal RC to the receiver of a remotely controlled device. The speech recognition circuit 15A, the controller 16, and the transmitting circuit 17 are supplied with electric energy from a power supply circuit 18 through a power supply control circuit 14 and power supply wires.

As shown in FIG. 6, the speech recognition circuit 15A comprises an analog processor 21 for processing an analog voice command signal which is received through the microphone M and for outputting the processed analog voice command signal as a time-division digital data 20, a speech recognition processor 22 for recognizing the voice command based on the time-division digital data 20 from the analog processor 21, a memory 23A for storing standard pattern data for speech recognition, and an interface 24 for transmitting signals to and receiving signals from the controller 16.

This passage does not discuss any buttons or any recording of the electrical signals (i.e., the signals corresponding to the speech prior to any speech recognition processing).

Claim 11 recites a second controlled device having a recognition processor. The Office asserted that this is found in Kimura's Figure 11 at sub-block 23b.

However, sub-block 23b in Figure 11 is part of the remote control unit, and not part of any controlled device, let alone a second controlled device.

Claims 12, 26, and 27 recite that the first controlled device further comprises a transmitter for generating and transmitting a second electrical signal to a second controlled device (claims 12 and 26, generally) and that the second controlled device converts the received signals into a second set of pattern data (claim 27). The Office asserted that this is found in Kimura's Figure 11 at sub-block 24. However, sub-block 24 in Figure 11 of Kimura is an interface unit and is in the remote control,

not in any controlled device. Accordingly, the Office's reading of Figure 11 of Kimura

is incorrect.

Claims 14, 15, 29, 30, and 32-34 recite, *inter alia*, that the controlled device(s)

transmit control signals to further controlled devices. In the terminology of the

present application, the "control signals" are the actual electronic command signals

for the function to be performed that are generated by the controlled device after the

voice command has been processed by the speech recognition software to identify

the command function to which it corresponds. This is to be distinguished from the

"electrical signals", which are the signals corresponding to the voice data prior to

speech recognition processing. The Office asserted that this is found in Kimura at

column 1, lines 5-10.

However, column 1, lines 5–10 of Kimura discloses merely:

> The present invention relates to a remote control system for remotely controlling
> various electronic devices, and more particularly to a remote control system for
> remotely controlling devices such as AV (audiovisual) devices by way of voice
> commands.

These generic statements do not contain any disclosure whatsoever as to the

subject matter claimed in these claims. These claims pertain to the embodiment of

the invention in which a first controlled device contains the speech recognition

software and a second controlled device does not. Therefore, the first controlled

device takes the electrical signals, converts them to control signals, and then

forwards those control signals to second controlled device. In this manner, the

remote unit can control multiple controlled devices while saving manufacturing costs

by having the speech recognition software in only one of the controlled devices (and

not in the remote control unit at all). Kimura's general statement that the remote unit

controls multiple devices contains no disclosure whatsoever as to how it does so

and certainly does not disclose the technique claimed in these claims.

Claim 32, similarly to claim 2 discussed above, even further recites that the

controlled device is our selected from the group consisting of telephone answering

devices, television sets, stereos, video cassette recorders, compact disk players,

cassette tape players, and digital video disk players, which even more clearly places

it outside of the art of telecommunication networks of Ladden.

Conclusion

In view of the foregoing remarks, this application is now in condition for

allowance. Applicant respectfully requests the Office to issue a Notice of Allowance

at the earliest possible date. The Examiner is invited to contact Applicant's

undersigned counsel by telephone call in order to further the prosecution of this case

in any way.

                                        Respectfully submitted,

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